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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,287	11/13/2003	Naoki Kusunoki	Q78-442	5668
23373 7590 07/17/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER ALUNKAL, THOMAS D				
ART UNIT		PAPER NUMBER		
2627				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/706,287

**Applicant(s)**

KUSUNOKI ET AL.

**Examiner**

THOMAS D. ALUNKAL

**Art Unit**

2627

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-10, 14-23 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 14-23 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/15/09 has been entered.

### ***Response to Arguments***

Regarding applicant's arguments pertaining to the amended limitation of claims 1, 3, 6, and 16, these arguments are persuasive. However, upon further consideration, a new ground of rejection is made.

Regarding applicant's arguments beginning on page 9 of Remarks, the applicant argues that "Nakano fails to teach or suggest writing indication information by irradiating the surface of the label base layer with light." However, as discussed in the Advisory Action dated 5/6/09, Column 2, lines 51+ of Nakano disclose that the label base layer may be formed of various kinds of synthetic paper (which corresponds to the electronic paper recited in claim 2). The specific coloring (i.e., black as disclosed in lines 56+) of the synthetic paper is produced by the irradiation of light. Thus, the rewritable layer which is provided on one side of the label base layer is also provided with the irradiation of light. Therefore, Nakano discloses the argued limitation.

On page 11 of Remarks, the applicant argues that Anderson does not disclose all of the claimed limitations of independent claim 6. The crux of the applicant's argument is that Anderson does not disclose "detecting a difference" between stored data and subsequent new data to be stored. However, as indicated in the Advisory Action dated 5/6/09, the difference detected in Anderson relates to the amount of space either used or available on the disc. Therefore, when new data is to be stored, a difference between the amount of old data stored and the subsequent amount of new data to be stored is determined and a new marking is provided to reflect the difference. Therefore, Anderson discloses the argued limitation.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano (US 6,391,439) and in view of La et al. (hereafter La)(US 6,885,624).

Regarding claim 1, Nakano discloses a recording medium (see Title) comprising a storage layer for storing data (Figure 1, Element 8); and an indication layer for providing indication information relating to the stored data (Figure 1, Element 2); wherein said storage layer and said indication layer are coupled by lamination (Figure 1, Element 4 and Column 2, lines 47-50); wherein the indication information can be written

at the indication layer, and at least a portion of the indication information which has been written can be rewritten (Figure 1, Element 2 and Column 2, lines 31-40 where the indication layer is rewritable); wherein said recording medium is substantially planar and circular in shape (Figure 1, Element 8), wherein the indication information is written by irradiating light in a form of an image onto the indication layer (Column 2, lines 51+, Column 5, lines 48-55 where indication information is written by irradiating light). Nakano does not specifically disclose wherein the indication information comprises a tree structure. In the same field of endeavor, La discloses a method for recording data to an optical medium which comprises a tree structure for efficiently indicating data to be recorded to the optical medium (Figures 1 and 2A-2C).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the tree structure for files recorded on an optical medium of La to the indication information layer of Nakano, motivation being to readily display the contents of the optical recording medium to a user.

Regarding claim 2, Nakano discloses wherein the indicator layer includes electronic paper (Column 2, lines 51-56).

Regarding claim 5, Nakano discloses wherein the indication layer has a heat recording layer at which the indication information can be recorded and deleted by a heat treatment (Column 2, line 63-Column 3, line 6).

Claims 3 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (hereafter Anderson)(US 6,778,205) and in view of Araki et al. (hereafter Araki)(US PgPub 2003/0103762), and further in view of La.

Regarding claim 3, Anderson discloses a recording medium (Figure 3A) comprising a storage layer for storing data (Figure 3A, Element 202); and an indication layer for providing indication information relating to the stored data (Figure 3A, Element 302), wherein the indication information can be written at the indication layer, and at least a portion of the indication information which has been written can be rewritten (Column 4, lines 35-38. More specifically, phase changing material allows for areas of the indication layer to be rewritten); and wherein said recording medium is substantially planar and circuit in shape (Figure 3B). Anderson does not disclose wherein the indication layer has a cholesteric layer and a transparent electrode layer on a light absorbing layer. In the same field of endeavor, Araki discloses a light absorbing layer which has both a cholesteric layer and a transparent electrode (Paragraph 0106). Similarly, Anderson discloses a recording medium with a storage layer and an indication layer disposed thereon where the indication layer includes a dye or phase changing material. Thus, both Anderson and Araki disclose recording mediums with indication layers for indicating information related to the disc. The difference between Anderson and Araki is the type of indication layer disclosed. However, a simple substitution of indicating layers (i.e., substituting an indication layer of a cholesteric layer and a transparent electrode on a light absorbing layer in place of the writable label of Anderson) is well within the scope of knowledge that is known to one of ordinary skill in

the art because the substitution results in a predictable result. More specifically, providing the indication layer of a cholesteric layer and a transparent electrode on a light absorbing layer to the recording medium of Anderson '205 results in a recording medium that provides a visible image perceptible to a human via the indication layer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the light absorbing layer which has both a cholesteric layer and a transparent electrode of Araki to the recording medium of Anderson, motivation being to provide a visible image on the recording medium.

In addition, Anderson does not specifically disclose wherein the indication information comprises a tree structure. In the same field of endeavor, La discloses a method for recording data to an optical medium which comprises a tree structure for efficiently indicating data to be recorded to the optical medium (Figures 1 and 2A-2C).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the tree structure for files recorded on an optical medium of La to the indication information layer of Anderson, motivation being to readily display the contents of the optical recording medium to a user.

Regarding claim 22, Anderson discloses wherein the storage layer comprises data written in at least one of magnetic and optical form (Figure 1).

Regarding claim 23, Araki discloses wherein the storage layer is read electrically (Figure 17).

Claims 6-7, 9-10, 14-19, 21, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (hereafter Anderson)(US 6,778,205) and in view of Anderson et al. (US 7,145,586), and further in view of La.

Regarding claim 6, Anderson discloses a data writing device (Figure 1) to a recording medium having a storage layer for storing data (Figure 3A, Element 300), and an indication layer for providing indication information relating to the stored data (Figure 3A, Element 202), the device comprising: a storing section storing data at the storage layer of the recording medium (Figure 1, Element 100, 108, and 112a); and a writing section writing, at the indication layer, the indication information which relates to the stored data and which is for indication at the recording medium (Figure 1, Elements 100, 108, and 112a). Anderson does not disclose a detecting section detecting a difference between storage data which is stored at the storage layer of the recording medium, and new data which is to be subsequently stored; and a generating section which, on the basis of results of detection of the detecting section, generates detection data regarding the difference between the data stored at the storage layer and the new data which is to be subsequently stored, and generates indication information which corresponds to the difference, wherein the storing section stores, at the storage layer, the detection data regarding the difference, and the writing section writes, at the indication layer, the indication information which corresponds to the difference. In the same field of endeavor, Anderson et al. disclose a detecting section detecting a difference between storage data which is stored at the storage layer of the recording medium, and new data which is to be subsequently stored; and a generating section



which, on the basis of results of detection of the detecting section, generates detection data regarding the difference between the data stored at the storage layer and the new data which is to be subsequently stored, and generates indication information which corresponds to the difference, wherein the storing section stores, at the storage layer, the detection data regarding the difference, and the writing section writes, at the indication layer, the indication information which corresponds to the difference (Figure 6 and Column 6, line 9-Column 8, line 3).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the label updating means Anderson et al. to the data writing device of Anderson, motivation being to accurately display the most current data stored on the medium.

In addition, Anderson does not specifically disclose wherein the indication information comprises a tree structure. In the same field of endeavor, La discloses a method for recording data to an optical medium which comprises a tree structure for efficiently indicating data to be recorded to the optical medium (Figures 1 and 2A-2C).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the tree structure for files recorded on an optical medium of La to the indication information layer of Anderson, motivation being to readily display the contents of the optical recording medium to a user.

Regarding claim 7, Anderson discloses wherein the indication information can be written at the indication layer, and at least a portion of the indication information which has been written can be rewritten (Figure 3A, Element 302 and Column 4, lines 35-38.

More specifically, phase changing material allows for areas of the indication layer to be rewritten).

Regarding claim 9, Anderson et al. discloses wherein the storing section also stores the indication information at the storage layer (Figure 6, Element 606).

Regarding claim 10, Anderson discloses a data memory section for storing the stored data and the indication information (Figure 1, Element 110 and Column 3, lines 56-65. Here, Anderson discloses that logic (Figure 1, Element 110) may include a combination of hardware, firmware, and/or software).

Regarding claim 14, Anderson et al. discloses wherein the storing section also stores, at the storage layer, the indication information which corresponds to the difference (Figure 6, Element 614).

Regarding claim 15, Anderson et al. disclose a data memory section storing the stored data and the indication information which corresponds to the difference between the data stored at the storage layer and the new data (Figure 7. Memory is inherently provided within).

Method claim 16 is drawn to the method of using the corresponding apparatus claimed in claim 6. Therefore method claim 6 corresponds to apparatus claim 6 and is rejected for the same reasons of obviousness as used above.

Regarding claim 17, Anderson discloses wherein said indication information is generated according to a manner of indication received from an external source (Column 1, lines 31-35).

Regarding claim 18, Anderson discloses wherein said external source is a user (Column 1, lines 31-35).

Regarding claim 19, Anderson et al. disclose writing said indication information to said storage layer of said storage medium (Figure 6, Element 606).

Regarding claim 21, Anderson discloses wherein said storage medium is substantially planar and circular in shape (Figure 3A).

Regarding claim 29, Anderson et al. discloses wherein the indication information comprises a place to be changed and content of the change of the storage data (Figures 2A-2D).

Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson, Anderson et al., and La, as applied to claims 6-7, 9-10, 14-19, 21, and 29 above, and in further view of Nakano (US 6,391,439).

Regarding claims 8 and 20, Anderson, Anderson et al., and La do not disclose wherein the indication layer includes electronic paper. In the same field of endeavor, Nakano discloses an indication layer which includes electronic paper (Column 2, lines 51-56).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide electronic paper of Nakano to the indication layer of Anderson, Anderson et al., and La, motivation being to provide a clearly viewable image or text on the indication layer.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tamaoki et al. (US 6,197,460) disclose a rewritable heat sensitive, color image recording medium and image recording method using the same. Taira et al. (US 5,809,003) discloses an optical disk and optical information reproducing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS D. ALUNKAL whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas D Alunkal/  
Examiner, Art Unit 2627

/Thang V. Tran/  
Primary Examiner, Art Unit 2627